

REMARKS

Prior to submission of Applicant's Brief on Appeal, Applicant requests entry of the modifications set forth in this amendment to the claims for the purpose of reducing issues on appeal and placing the application in condition for allowance. By this amendment, Applicant has cancelled claims 1-2, 4, 8 and 11.

Applicant has modified dependent claim 3 to incorporate all of the identical language from its previous base claim. Additionally, Applicant has made similar changes to each of claims 6-7, 9-10, and 12-13. Applicant submits that the subject matter of these claims remains patentably distinct over the prior art references cited by the Examiner. More specifically, for example, claim 3 defines the invention as a liquid crystal display wherein each of a plurality of dot regions has a first alignment direction for a front alignment film of a dot, and a second alignment direction for a back alignment film portion of the dot with no other alignment directions for the dot; and further wherein four closely arranged dot regions each have two different alignment directions for the respective front and back alignment films and none of the four dot regions share two common alignment directions.

Claim 6 is similar except that it is directed to the same limitations for a plurality of pixel regions; and claim 7 further requires that adjacent pixels do not share two common alignment directions.

Claim 9 is similar to claim 3 but alternatively specifies pixel regions for dot regions; and claim 10 is similar to claim 7. Furthermore, claims 12 and 13 also have similar limitations.

Based on the final rejection of the Examiner, claim 7 stands rejected as being anticipated by the Chen reference U.S. Patent 6,097,463. Applicant respectfully submits that this rejection is improper because the Chen reference is merely directed to a liquid crystal display device wherein an in-pixel divided alignment structure may be achieved. More specifically, the Chen reference is merely directed to a liquid crystal display wherein each pixel is divided. Specifically see the summary of the invention section in column 2, beginning at line 53, wherein the specification states that each of the alignment films includes a first homeotropic alignment film which is rubbed, and a second homeotropic alignment film which is deposited on the first homeotropic alignment film in a half region of each pixel, and which is not rubbed.

The Chen reference is merely directed to conventional divided pixel technology. See, for example, column 9, beginning at line 50, wherein the specification of Chen states that each of the pixels 141 was divided into two regions so that adjacent divided regions had opposite rubbing directions. The shortcomings of this technology are noted in the specification on page 3, beginning at line 12, wherein Applicant notes that in the case where the liquid crystal alignments are executed by dividing one dot into two or four areas like the prior art technique, because alignment disorder occurs at boundaries of the divided areas, it is necessary to shade the upper substrate where a color filter is formed from rays penetrating the divided areas. As a result, a decline of the aperture ratio of a dot and decline of the transmissive characteristics of the device is caused, and thereby the display quality declines. See specifically lines 20-25 at page 3 of Applicant's specification.

In order to distinguish from this conventional art and the prior art of Chen, Applicant had included a limitation requiring for either pixels or dots, (previous claim 1 -as to dots- which has been incorporated into claim 3, and original claim 2, -as to pixels - which has now been incorporated into claims 6 and 7, for example,) that either the dot or the pixel has no other alignment directions other than a first direction for one film and a second direction for the second film. More specifically, this limitation distinguishes from the those prior art techniques wherein the pixels were divided and thus have the shortcomings of the prior art noted therein.

Accordingly, Applicant submits that the rejection set forth by the Examiner of this claim is improper at the very least for this reason alone and therefore should be withdrawn. Furthermore, claim 7 also requires that the adjacent pixels do not share two common alignment directions which is also not true of the Chen reference. Accordingly there are at least two independent grounds for overcoming the Examiner's anticipation rejection of claim 7 under 35 U.S.C. §102.

Claims 3, 6, and 9-10, as well as 12-13 stand rejected as being obvious in light of the combined teachings of Chen in view of McCartney. However, significantly Chen has the deficiencies noted above which also applies to these claims. In particular, with respect to claim 3 which includes the requirement that the dot have no other alignment directions for the dot, Chen actually teaches away from this limitation. Furthermore, claim 3 requires that none of four dot regions which are closely arranged share two common alignment directions. Again, Chen teaches away from this limitation. See specifically the illustration of Figures 8A

and 8B. The remaining claims have similar limitations which are nether taught nor suggested by the cited references.

The McCartney reference fails to add any teaching or suggestion which would result in the claimed subject matter. Applicant in the instant application has discovered a new and non-obvious relationship for the alignment film directions such that improved viewing characteristics can be achieved over the prior art techniques of either Chen or McCartney. McCartney specifically teaches that adjacent or nearby pixels share common alignment directions. See specifically, Figure 1, the only figure in the application wherein there are many pixels that are adjacent and have common alignment directions. In contrast, for example, in Applicant's figure 1, at best there is one common alignment direction but none share two common alignment directions, which is what Applicant has claimed and which further distinguishes over the art of record.

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In summary, the art of record fails to teach or suggest the structures specified in the remaining claims and the rejections should therefore be withdrawn. Accordingly, in light of the foregoing, Applicant respectfully submits that the rejections set forth by the Examiner as to the claims remaining in the application should now be withdrawn.

Respectfully submitted,

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